



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,221	06/27/2001	Rami Orpaz	1449-004P/FS3	5003
22831	7590	06/16/2004	EXAMINER	
SCHWEITZER CORNMAN GROSS & BONDELL LLP			HUNG, YUBIN	
292 MADISON AVENUE - 19th FLOOR			ART UNIT	
NEW YORK, NY 10017			PAPER NUMBER	
			2625	
			DATE MAILED: 06/16/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,221

Applicant(s)

ORPAZ ET AL.

Examiner

Yubin Hung

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-18, 22 is/are rejected.
- 7) ☒ Claim(s) 6-9 and 19-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Priority

It is noted that this application appears to claim subject matter disclosed in prior Application No. 60/214,494, filed June 27, 2000. A reference to the prior application must be inserted as the first sentence of the specification of this application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e) or 120. See 37 CFR 1.78(a).

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6-9, 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 6 recites the limitation "the equalized area" in lines 7 and 24. There is insufficient antecedent basis for this limitation in the claim. Claims 7 and 8, being dependent upon claim 6, are similarly rejected.

4. Claim 8 recites the limitation "the equalized area" in lines 7 and 24. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2625

5. Claim 9 recites the limitations "the equalized area" in line 24; "the applied product color" in lines 34-35; "the equalization function" in lines 40-41; "said composite image" in lines 45-46, 54-55, 63-64. There are insufficient antecedent bases for these limitations in the claim.

6. Claim 19 recites the limitations "the equalized area" in line 6 and "the equalization function" in lines 22-23. There are insufficient antecedent bases for these limitations in the claim. Claims 20 and 21, being dependent upon claim 19, are similarly rejected.

7. Claim 21 recites the limitations "the equalized area" in line 6 and "the equalization function" in lines 22-23. There are insufficient antecedent bases for these limitations in the claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2625

9. Claims 1, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawade et al. (US 6,661,906) and Kurokawa et al. (US 6,453,052).

10. Regarding claim 1, and similarly claim 13, Kawade et al. discloses

- compiling a database of a plurality of products, said database including appearance information for each said product [Fig. 1, numerals 11, 12; Fig. 2. Note that the image components and the selection rules constitute products and their appearance information]
- acquiring a base image of a consumer, said base image including a plurality of pixels [Fig. 1, numeral 4; Col. 4, lines 56-59. Note that lines 58-59 indicate that the input images are faces]
- identifying a product application area in said base image, said product application area including a blending region, said product application area and said blending region thereof being defined by sets of pixels of said base image [Fig. 1, numeral 5; Col. 1, lines 23-26; Col. 4, lines 56-59]
- receiving a product selection from said consumer [Fig. 1, numeral 6; Fig. 4, numeral s1; Col. 4, lines 59-61; Col. 5, line 56 - 59]
- retrieving appearance information associated with said selected product from said database [Fig. 1, numerals 2, 8-10; Fig. 4, numerals s5-s10; Col. 4, line 63 - Col. 5, line 6; Col. 5, line 56 - Col. 6, line 12]
- modifying appearance information of said pixels of said product application area according to said appearance information of said selected product [Fig. 4, numerals s12; Col. 6, lines 13-19]
- displaying a composite image of said base image as modified and blended in said application area and said blending region thereof [Fig. 1, numeral 7; Fig. 9, numerals 7, 13. Note that displaying on a monitor or output a printed copy are different ways of distribution. (This note is specific to claim 13.)]
- providing means to display an alternative product within said product application area [Fig. 12, numerals s41-s53; Fig. 13B; Col. 8, line 66 - Col. 9, line 21]

Kawade et al. fails to expressly disclose the following, which Kurokawa et al. teaches

- blending said blending region with said base image by modifying appearance information of said pixels of said blending region according to appearance information of said selected product and according to

Art Unit: 2625

appearance information of associated pixels of said base image in said blending region
[Fig. 2, numeral 38; Col. 8, lines 1-18. Note that the hair region within the facial image is the blending region]

Kawade et al. and Kurokawa et al. are combinable because they are from the same of endeavor of image processing (and in particular, image composition/editing).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Kawade et al. with the teaching of Kurokawa et al. by modifying the pixels (i.e., modifying the appearance information) in the blending area. The motivation would have been to produce a more natural looking image with no discernible "breaks" between the original and the modified regions.

Therefore, it would have been obvious to combine Kurokawa et al. with Kawade et al. to obtain the invention specified in claim 1.

11. Claims 2-4, 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawade et al. (US 6,661,906) and Kurokawa et al. (US 6,453,052) as applied to claims 1, 13 above, and further in view of Gerber (US 5,831,604).

12. Regarding claim 2, and similarly claim 15, Kawade et al. and Kurokawa et al. disclose/teach everything except the following, which Gerber teaches

Art Unit: 2625

- assigning alpha channel values to each pixel of said set of pixels of said product application area
[Col. 1, lines 14-17]
- blending said product application area with said base image by modifying appearance characteristics of pixels of said product application area according to appearance information of said selected product and according to appearance information of associated pixels of said base image
[Col. 1, lines 18-43]
- in said blending step, weighing said appearance information of said associated pixels of said base image and appearance information of said selected product according to alpha values of associated pixels of said make-up application area
[Col. 1, lines 18-43]

Kawade et al., Kurokawa et al. and Gerber are combinable because they are from the same of endeavor of image processing (and in particular, image composition/editing).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Kawade et al. and Kurokawa et al. with the teaching of Gerber by blending the background color (i.e., the base image color) with the foreground color (i.e., the selected product color) with the alpha channel values as the weighing factors. The motivation would have been to produce a more natural looking image, as is well known in graphics applications.

Therefore, it would have been obvious to combine Gerber with Kawade et al. and Kurokawa et al. to obtain the invention specified in claim 2.

13. Regarding claim 3, and similarly claim 16, Gerber further teaches

- in said blending step, weighing said appearance information of said associated pixels of said base image in reverse proportion to appearance information of said selected product

Art Unit: 2625

[Col. 1, lines 18-43. Note that either of the input images can be considered the base image (and the other the appearance information of the selected product). depending on the choice, the weighing will be in reverse of each other.]

14. Regarding claim 4, and similarly claim 17, Gerber further teaches

- a red color value (Rc) of said pixels of said product application area in said composite image being determined by the following formula:
$$Rc = [Rb * Alpha + Rp * (Alpha - UpperLimit)] / UpperLimit$$
, where
Rb is a red color value of an associated pixel in said base image
Rp is a red color value of said selected product;
Alpha is an Alpha value of an associated pixel in said product application area; and
UpperLimit is a predefined upper limit of said Alpha values
[Col. 1, equation 1]
- a green color value (Gc) of said pixels of said product application area in said composite image being determined by the following formula:
$$Gc = [Gb * Alpha + Gp * (Alpha - UpperLimit)] / UpperLimit$$
, where
Gb is a green color value of an associated pixel in said base image
Gp is a green color value of said selected product;
Alpha is an Alpha value of an associated pixel in said product application area; and
UpperLimit is a predefined upper limit of said Alpha values
[Col. 1, equation 2]
- a blue color value (Bc) of said pixels of said product application area in said composite image being determined by the following formula:
$$Bc = [Bb * Alpha + Bp * (Alpha - UpperLimit)] / UpperLimit$$
, where
Bb is a blue color value of an associated pixel in said base image
Bp is a blue color value of said selected product;
Alpha is an Alpha value of an associated pixel in said product application area; and
UpperLimit is a predefined upper limit of said Alpha values
[Col. 1, equation 3]

15. Claims 5, 10, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawade et al. (US 6,661,906) and Kurokawa et al. (US 6,453,052) as applied to claims 1, 13 above, and further in view of Lawton et al. (US 5,990,901).

16. Regarding claim 5, and similarly claim 18, Kawade et al. and Kurokawa et al. disclose/teach everything in claim 1 and the following limitation of claim 5

Art Unit: 2625

- assigning hue and saturation appearance values of said pixels of said product application area equal to hue and saturation appearance values of said selected product
[Kawade et al.: Fig. 4, numerals s12; Col. 6, lines 13-19. Note that since the selected component (i.e., "product") is arranged at (i.e., replaces) the decided arrange position (i.e., the "product application area"), the assigning of the hue and saturation values is inherent]

Kawade et al. and Kurokawa et al. do not expressly disclose/suggest the following, which Lawton et al. teaches

- assigning intensity appearance values of said pixels of said product application area according to intensity appearance values of a plurality of pixels within said product application area in said base image and according to intensity appearance values of a plurality of pixels outside said product application area
[Fig. 3, numeral 119; Col. 9, lines 10-16]

Kawade et al., Kurokawa et al. and Lawton et al. are combinable because they are from the same of endeavor of image processing (and in particular, image composition/editing).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Kawade et al. and Kurokawa et al. with the teaching of Lawton et al. by blending the intensity of the original and the pasted images to produce the intensity value for the application area that will match the surrounding (i.e., according to intensity appearance values of a plurality of pixels outside said product application area). The motivation would have been to produce a more natural looking image with no discernible "breaks" between the original and the modified regions.

Art Unit: 2625

Therefore, it would have been obvious to combine Lawton et al. with Kawade et al. and Kurokawa et al. to obtain the invention specified in claim 5.

17. Regarding claim 10, Kawade et al. further discloses

- compiling a database including an image of an accessory product [Fig. 1, numerals 11, 12; Fig. 2. Note that the image components and the rules constitute "accessory products"]
- acquiring a base image of a consumer, said base image including a plurality of pixels [Fig. 1, numeral 4; Col. 4, lines 56-59]
- defining an anchor point in said base image for location of an accessory product image [Fig. 4, numeral s10; Col. 6, lines 8-12. Note that the arrange position is considered the anchored point]
- displaying a composite image of said base image with said product image superimposed [Fig. 4, numeral s10; Fig. 9, numeral 13]
- providing means to allow said consumer to adjust the size or orientation of said product image [Fig. 4, numerals s1, s7; Col. 5, lines 57-59; Col. 6, lines 5-6. Note that the specific deform operations of size and orientation adjustments are taught by Kurokawa et al., as discussed below]
- adjusting said size or orientation of said product image and displaying an adjusted composite image in response receiving associated instructions from said consumer [Fig. 4, numeral s8; Fig. 9, numeral 13; Fig.10, numeral s8]

Kurokawa et al. further discloses

- calculating a base image size factor according to a pixel dimension of a body part of said consumer visible in said base image [Fig. 5; Col. 5, lines 10-16]
- calculating a base image rotation factor according to an orientation of said body part in said base image [Fig. 6; Col. 5, lines 25-31]
- adjusting a size of said product image according to said base image size factor [Fig. 2, numeral 36; Col. 3, lines 61-63]
- adjusting an orientation of said product image according to said base image rotation factor [Fig. 2, numeral 36; Col. 3, lines 61-63]

and Lawton further discloses

Art Unit: 2625

- (*compiling a database including an image of an accessory product*) and including an anchor point associated with said image of each said accessory product
[Fig. 2, numeral 64a; Col. 6, lines 45-47. Note that the node for an attribute of a model (i.e. the image of an accessory product) corresponds to an anchor point]
- (*displaying a composite image of said base image with said product image superimposed*) thereover, said anchor point of said product image being substantially aligned with said anchor point of said base image
[Fig. 2, numeral 64a, 68; Fig. 9; Col. 6, lines 45-47; Col. 11, line 66 - Col. 12, line 5. Note that Col. 6, lines 45-47 teach registration (i.e., alignment) of anchor points]

18. Claims 11, 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Kawade et al. (US 6,661,906), Kurokawa et al. (US 6,453,052) and Lawton et al. as applied to claims 5, 10, 18 above, and further in view of MacInnis et al. (US 6,023,302).

19. Regarding claim 11, Kawade et al., Kurokawa et al. and Lawton et al. disclose/teach everything except the following, which MacInnis et al. teaches

- assigning alpha values for certain pixels of said product image
[Col. 5, lines 54-62]
- blending pixels of said product image having assigned alpha values with pixels of said base image according to said alpha values
[Fig. 3A, numeral 301, 302, 308-313; Col. 6, lines 25-27; Col. 7, lines 3-10]

Kawade et al., Kurokawa et al., Lawton et al. and MacInnis et al. are combinable because they are from the same of endeavor of image processing (and in particular, image composition/editing).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Kawade et al., Kurokawa et al. and Lawton et al. with the teaching of MacInnis

Art Unit: 2625

et al. by blending the background color (i.e., the base image color) with the foreground color (i.e., the product image color) with the alpha values as the weighing factors. The motivation would have been to produce a more natural looking image, as is well known in graphics applications.

Therefore, it would have been obvious to combine MacInnis et al. with Kawade et al., Kurokawa et al. and Lawton et al. to obtain the invention specified in claim 11.

20. Regarding claim 12, MacInnis et al. further teaches

- in said blending process, said alpha values resulting in certain areas of said product image being substantially fully transparent and certain areas of said product image being semitransparent
[Abstract, lines 5-9; Fig. 2, numerals 203-205; Col. 4, lines 14-26]

21. Claims 14, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawade et al. (US 6,661,906) and Kurokawa et al. (US 6,453,052) as applied to claims 1, 13 above, and further in view of Ohba (US 6,714,660).

Regarding claim 22, and similarly claim 14, Kawade et al. and Kurokawa et al. disclose/teach everything except the following, which Ohba teaches

- interconnecting first and second user systems through a network; receiving a product selection from a first user; displaying a composite image incorporating said product selected by said first user on said first and second user systems
[Figs. 12-13; Col. 7, lines 31-51. Note that Fig. 12 and 13 teach to display the first user on the second user system as well. (Kawade et al. has already disclosed displaying the first user on the first user system--see Fig. 13A.)]

Kawade et al., Kurokawa et al. and Ohba are combinable because they are from the same of endeavor of image processing (and in particular, image composition/editing).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Kawade et al. and Kurokawa et al. with the teaching of Ohba by interconnecting two users through a network and displaying the composite image in both the first and the second user systems. The motivation would have been to produce allow both users (e.g., a customer and a remote cosmetic consultant) to be able to review and discuss the result of the application.

Therefore, it would have been obvious to combine Ohba with Kawade et al. and Kurokawa et al. to obtain the invention specified in claim 22.

Allowable Subject Matter

22. Claims 6-8 and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims as well as to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Art Unit: 2625

23. Claim 9 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

24. The following is a statement of reasons for the indication of allowable subject matter:

25. Regarding claim 9, the prior art of record fails to teach or suggest, alone or in combination, a method for simulating an appearance of products on an image of a consumer comprising, along with other limitations:

- said intensity are assigned according to a predetermined algorithm, comprising employing the following formula:

$$I_{out} = A * I_{in} + B \quad \text{where}$$

I_{out} is the value of the intensity of a pixel of the equalized area,
 I_{out} can range between Upper and Lower Limits of 255 and 0,
respectively,

I_{in} is the value of the intensity of an associated pixel of the
product application area of the base image (before equalization),
 I_{in} can range between the Upper and Lower Limits,

A is the slope of the function and is computed according to a
Gaussian distribution function, as follows:

$$A = \exp(-0.5 * (I_{color} - I_{mean})^2 / I_{stdev}^2) \quad \text{where}$$

I_{color} is the value of the intensity of the applied product
color,

I_{mean} is mean value of the intensities of the pixels in the
product application area, and

I_{stdev} is the variance of the intensities of the pixels in the
product application area,

B is a constant computed by equating the I_{in} and I_{out} values in the
equalization function to I_{mean} and I_{color} , respectively

Closest art of record khoury (US 5,838,194) teaches a non-linear gain control
(applicable to contrast stretching here) with a Gaussian behavior [Col. 1, lines

Art Unit: 2625

37-39 and Col. 5, Eq. 12. Note that the left side of the equation corresponds to the value A in the above formula.] However, it does not include a separate signal (I_{color} above) to determine the gain, nor does the computation of the output include a term similar to B.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (703) 305-1896. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2625

Yubin Hung
Patent Examiner
June 7, 2004

A handwritten signature in black ink, appearing to read 'Bhavesh M. Mehta', with a stylized, cursive script.

**BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**